



PATENT ABSTRACTS OF JAPAN

(11) Publication number: **02096606 A**

(43) Date of publication of application: 09 . 04 . 90

(51) Int. Cl.

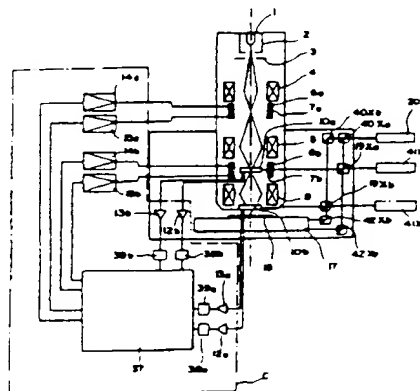
G01B 15/00**H01J 37/22****H01J 37/244****H01J 37/28**(21) Application number: **63247492**(22) Date of filing: **03 . 10 . 88**(71) Applicant: **CANON INC**(72) Inventor:
KORENAGA NOBUSHIGE
UZAWA SHUNICHI
GOTO SUSUMU
KARIYA TAKUO**(54) MINUTE-SIZE MEASURING APPARATUS****(57) Abstract:**

PURPOSE: To obtain a measuring apparatus wherein the measuring errors of minute sizes due to temperature change in an environment and mechanical vibration by detecting the position of an electron beam in a plane perpendicular to an optical axis, and moving the electron beam from said position to a specified position.

CONSTITUTION: An electron beam mirror tube has a reference point and has electron-beam position detectors 10a and 10b which detect the position of the electron beam and electron-beam-position correcting deflection coils 6a, 7a, 6b and 7b. A length measuring device having beam splitters 19Xa and 19Xb is optically connected to the reference points of the electron-beam-position detectors 10a and 10b and the reference point of a specimen stage 17. The relative positions of the electron-beam position detectors 10a and 10b and the specimen stage 17 are determined. A central processing unit 37 is connected to the electron-beam position detectors 10a and 10b and the electron-beam-position correcting deflection coils 6a, 7a, 6b and 7b. The amount of deviation required for moving the electron beam to a specified position in a plane that is perpendicular to the optical axis of the electron beam is determined based on the detected

signals of the electron-beam position detectors 10a and 10b. Deflecting signals for moving the electron beam to the specified position are imparted to the electron-beam position correcting deflection coils 6a, 7a, 6b and 7b.

COPYRIGHT: (C)1990,JPO&Japio



PATENT ABSTRACTS OF JAPAN

(11)Publication number : 02-096606

(43)Date of publication of application : 09.04.1990

(51)Int.Cl.

G01B 15/00
H01J 37/22
H01J 37/244
H01J 37/28

(21)Application number : 63-247492

(71)Applicant : CANON INC

(22)Date of filing : 03.10.1988

(72)Inventor : KORENAGA NOBUSHIGE
UZAWA SHUNICHI
GOTO SUSUMU
KARIYA TAKUO

(54) MINUTE-SIZE MEASURING APPARATUS

(57)Abstract:

PURPOSE: To obtain a measuring apparatus wherein the measuring errors of minute sizes due to temperature change in an environment and mechanical vibration by detecting the position of an electron beam in a plane perpendicular to an optical axis, and moving the electron beam from said position to a specified position.

CONSTITUTION: An electron-beam mirror tube has a reference point and has electron-beam position detectors 10a and 10b which detect the position of the electron beam and electron-beam-position correcting deflection coils 6a, 7a, 6b and 7b. A length measuring device having beam splitters 19Xa and 19Xb is optically connected to the reference points of the electron-beam-position detectors 10a and 10b and the reference point of a specimen stage 17. The relative positions of the electron-beam position detectors 10a and 10b and the specimen stage 17 are determined. A central processing unit 37 is connected to the electron-beam position detectors 10a and 10b and the electron-beam-position correcting deflection coils 6a, 7a, 6b and 7b. The amount of deviation required for moving the electron beam to a specified position in a plane that is perpendicular to the optical axis of the electron beam is determined based on the detected signals of the electron-beam position detectors 10a and 10b. Deflecting signals for moving the electron beam to the specified position are imparted to the electron-beam position correcting deflection coils 6a, 7a, 6b and 7b.

